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# A2 SYSTEM SERVICE MANUAL

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CONFIDENTIAL MATERIALS

To be kept with key cutting  
codes in a secure place.  
DO NOT JEOPARDIZE YOUR ACCESS  
SECURITY CONTROL.

**BEST LOCK CORPORATION**

**INDIANAPOLIS, INDIANA 46250**

## KEYS and the KEY COMBINATOR

This section explains:

1. How to cut keys.
2. How to adjust the Key Combinator.

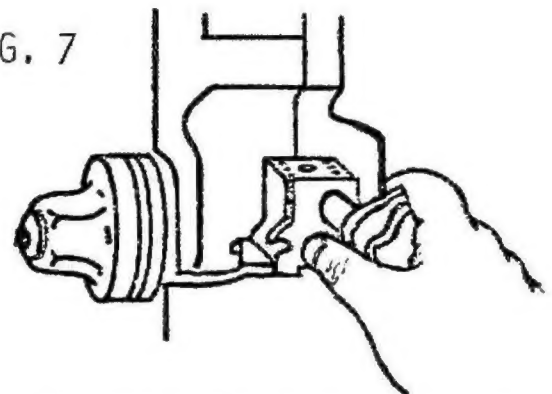
### CUTTING THE KEY

With the BEST Key Combinator, keys may be cut to any combination up to 7 digits long. If your organization does not own a Key Combinator, but needs one, contact the factory.

To cut a key, follow these steps:

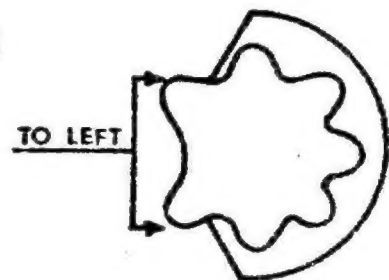
1. Using the small knob on the front of the key carriage, pull the carriage all the way forward (Fig. 7).

FIG. 7



Then rotate the knob so that the knob's deep notch is to the left (Fig. 8).

FIG. 8



2. While holding the carriage in forward position, insert a key blank into the carriage (fig. 9). NOTE:

a. Thick edge back of blade is to the right.

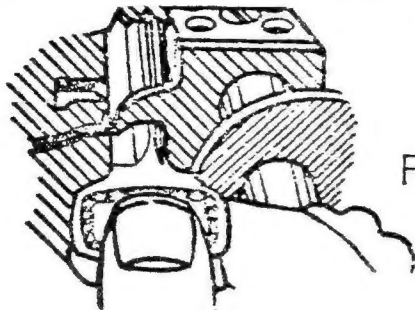


FIG. 9

b. When inserting the key, have the key firmly against the right of the carriage - not at an angle.

c. Push the key forward until it rests against the stop. The key should now be held firmly by a "gripper" keyway at its right edge. You will not be able to move it to the right, left or up and down, when properly seated.

3. Now turn the knob clockwise. This brings the key clamp in contact with the key bow, and holds the key in position (fig. 10). Do not attempt to cut keys without engaging clamp.

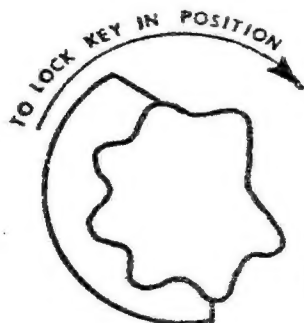


FIG. 10

4. Turn the dial on the left side of the machine until it lines up with number nine. NOTE: As the dial nears each number, it clicks into a slot indicating that you have reached the correct cutting depth.

5. With the dial in number nine notch, bring the handle down with a single stroke, quick and firm. Raise the handle quickly. This positions the key for cutting.

6. Any combination up to seven digits may now be cut in the key. For example, combination 6783058. Turn the dial to click at number 6. Operate the handle - quickly all the way down, quickly up. (A hacking motion will not give a clean cut). This cuts the first notch next to the point of the key, and puts the key in position for the next cut. Position dial on number 7 and make the next cut, proceeding until all the numbers in the combination have been entered in the key in consecutive order reading from left to right.

7. Pull the carriage forward and turn knob to release the key.

8. When using the key gauge, place key in the large opening at the rear of the long slot. With notches in contact with the graduated edge and the key blade parallel to the lines, slide key along slot until it is wedged tight. The nearest line indicates the correct number.

## ADJUSTING THE KEY COMBINATOR

It is possible that your key combinator may sometime be slightly out of adjustment and would cause you to cut a key which would not operate a lock ( i.e., the key notches are either too shallow or too deep).

If this happens, you can send the combinator to the factory for adjustment or do it yourself by carefully following these simple steps:

1. Turn the dial to any slot and remember the number.
2. Unscrew the square nut on the dial, (fig. 11) and pull the dial away from the machine.

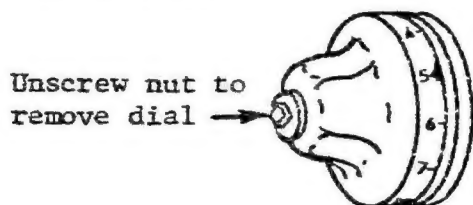


FIG. 11

3. Now, make a straight pencil mark from the steel to the brass case (fig. 12). This must be done so you will

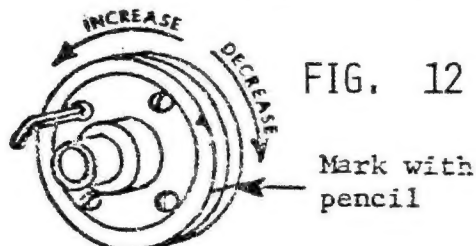


FIG. 12

know how far in either direction you must make the adjustment.

4. Loosen the four small clamp screws, which will let the steel pointer ring rotate in either direction.
5. Have the machine in front of you, as though you were going to operate it. In

this position, if you turn the pointer ring away from you, you will increase the depth of notch in a key. Turning the pointer ring toward yourself will decrease the depth of notch.

NOTE: A sixteenth-inch movement of the pointer ring is equal to about .001 inch in depth of key notch. This is why the pencil mark is necessary to show how far to go in either direction.

6. After making correct adjustment, be sure to tighten the four clamp screws. Also, replace the dial and dial spring in their original positions and tighten the square nut.

## RECOMMENDED INSPECTION

It is highly recommended that frequent checks of keys be made with the key gauge. Doing this will enable you to know exactly when the combinator starts to go out-of-adjustment. (Without routine checks, it might happen that you could cut a large number of keys at one time, then learn that they won't work in the locks). When numerous keys are being cut at the same time, many persons prefer to cut a key, gauge it, then proceed, checking perhaps one out of every one hundred keys cut.

BEST also maintains an inspection service to help customers maintain accurate combinators. Occasionally, you should cut two test keys (No. 4321000 and

3456789) and send them to the factory. We will promptly notify you whether your combinator is accurate or should be adjusted. Some customers prefer to send their combinators to the factory for free adjustment. Repairs are made on a "time and material" basis. Shipping charges are paid by the customer.

The Key Combinator punch will cut approximately 100,000 keys without losing its edge. It should then be rotated so the three unused punch edges do the cutting. Ultimately, the punch should be sharpened or replaced. Although some customers have successfully rotated or sharpened punches, experience shows that this delicate work should be performed at the factory.

#### MAINTENANCE OF THE KEY COMBINATOR

Periodic oiling and cleaning of the Key Combinator will help assure accurate keys and longevity of the Combinator itself.

Using a good grade of light machine oil, occasionally lubricate the Combinator at various oil holes. At these times, you should also apply small amounts of oil to the four sliding surfaces of the key carriage.

Dust, metal chips, and other particles should be removed regularly from the carriage housing. To accomplish this (fig. 13):

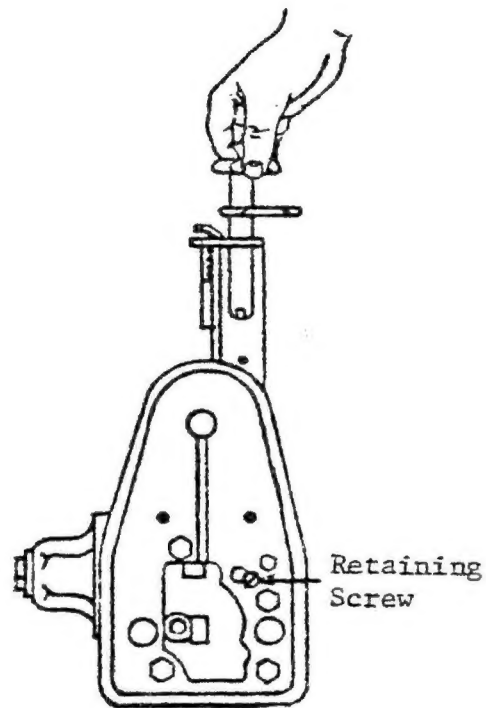


FIG. 13

1. Loosen the small stop plug retaining screw located on the underside of the Combinator, unscrewing it about 1/4 inch.
2. Loosen the stop plug and pull the carriage out of the machine.
3. Using appropriate solvent, remove all particles from both the carriage and its housing. Pay special attention to various holes, the key stop and other "chip traps".
4. Apply clean oil to the carriage and replace it. Push in the stop plug and tighten its retaining screw.